

AMENDMENTS

In the Claims

1. (Currently Amended) ~~A capacitance measurement system for determining water content of a gaseous sample~~ An array production system comprising:

an array synthesis environment including fluid for forming features on a substrate, and
a capacitance measurement system comprising,

a body defining a chamber having first and second ports, said chamber containing a capacitance sensor probe,

first and second valves, said first valve in communication with said first port and said second valve in communication with said second port, and

~~a dry gas source to pass dry gas over said sensor probe to dehydrate it, wherein said chamber is apart from an environment to be sampled for moisture by said capacitance sensor probe, wherein said chamber is apart from an environment to be sampled for moisture by said capacitance sensor probe,~~

wherein a sampling conduit provides fluid communication through said first port between said chamber and ~~the~~ said synthesis environment, and

wherein said valves are positioned to allow dry gas to flow through said chamber in one state to dehydrate said sensor, and said a gaseous sample from said synthesis environment to flow through said chamber in another state.

2. (Cancelled, without prejudice.)

3. (Original) The system of claim 1, further comprising a vacuum pump in fluid communication with said chamber to draw sample into said chamber.

4. (Original) The system of claim 3, wherein said vacuum pump comprises a venturi device.

5. (Original) The system of claim 4, wherein said venturi device is driven by said dry gas source.

6. (Original) The system of claim 1, wherein said ports are oriented orthogonally along said body.

7. (Previously Amended) The system of claim 1, wherein said first and second valves are two-way valves and said system further comprises third and fourth three-way valves, said third and fourth valves in communication with each other, said third valve also in communication with said first valve and said sampling conduit, said fourth valve also in communication with said dry gas source and said pump, said second valve also in communication with said pump, wherein said pump comprises a venturi device.

8. (Currently Amended) A method of capacitance measurement for determining water content of a gaseous sample from a synthesis environment comprising:

flowing dry gas over a capacitance sensor provided in a body defining a chamber apart from said synthesis environment so said sensor desorbs water,

terminating said flowing of dry gas, and

flowing said gaseous sample from said synthesis environment over said sensor to measure water content of said gaseous sample;

wherein an array is produced in said synthesis environment by fluid forming features on a substrate.

9. (Original) The method of claim 8, further comprising isolating said capacitance sensor in the presence of dry gas to maintain a low water content.

10. (Previously Amended) The method of claim 8, wherein negative pressure from a venturi pump draws said gaseous sample from a sample site through a flow-cell containing said sensor.

11. (Original) The method of claim 8, wherein a biopolymer is produced in the synthesis environment.

12. (Original) The method according to claim 11, wherein said biopolymer is a polypeptide or nucleic acid.

13. (Cancelled, without prejudice)

14. (Currently Amended) A biopolymeric array produced according to the method of claim ~~13~~ 8.

15. (Currently Amended) A method of detecting the presence of an analyte in a sample, said method comprising:

contacting (i) a ~~biopolymeric~~ an array having a complementary binding pair member that specifically binds to said analyte, with (ii) a sample suspected of comprising said analyte under conditions sufficient for binding of said analyte to a biopolymeric ligand on said array to occur; and

detecting the presence of binding complexes on the surface of the said array to detect the presence of said analyte in said sample,

wherein said ~~biopolymeric~~ array ~~is was~~ produced in a synthesis environment in which there is capacitance measurement for determining water content of a gaseous sample from said synthesis environment, said measurement comprising (i) flowing dry gas over a capacitance sensor apart from said synthesis environment so said sensor desorbs water, terminating said flowing of dry gas, and (ii)

~~flowing said gaseous sample from said synthesis environment over said sensor to measure water content of said sample, and by:~~

(i) flowing dry gas over a capacitance sensor provided in a body defining a chamber apart from a synthesis environment in which the array is produced, so said sensor desorbs water,

(ii) terminating said flowing of dry gas, and

(iii) flowing said gaseous sample from said synthesis environment over said sensor to measure water content of said sample, and

wherein said biopolymeric array is was produced with a fluid biopolymer that is a polypeptide or nucleic acid, said biopolymer being produced in said synthesis environment.

16. (Original) The method according to claim 15, wherein said method further transmitting a result from the detecting step.

17. (Original) A method according to claim 16 wherein the result is communicated to a remote location.

18. (Original) A method comprising receiving data representing a result of a reading obtained by the method of claim 15.

19. (Currently Amended) A capacitance measurement system for determining water content of a gaseous sample comprising:

a body defining a chamber containing a capacitance sensor probe, a dry gas source, and a venturi device,

wherein said system is configured so said venturi device produces a negative pressure within said chamber in one state,

wherein said system is configured so said dry gas source provides a flow of dry gas within said chamber to pass over said sensor probe to dehydrate it in another state,

wherein said chamber is apart from an array production environment in which fluid forms features on a substrate, from which environment a gaseous sample is to be sampled for moisture by said capacitance sensor probe, and

wherein a sampling conduit provides fluid communication for said gaseous sample through said first port between said chamber and the array production environment.

20. (Previously Amended) The system of claim 19, wherein said system is configured to draw said gaseous sample gas into said chamber by said negative pressure.

21. (Original) The system of claim 19, wherein said venturi device is driven by said dry gas.

22. (New) The system of claim 1, wherein said chamber contains only said sensor.

23. (New) The system of claim 19, wherein said chamber contains only said sensor.

24. (New) The system of claim 1, wherein said forming is performed with a printhead.